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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

MONITORING AND REPORTING PROGRAM NO. 99-061
FOR
KAISER VENTURES, INC., OWNER
KAISER EAGLE MOUNTAIN, INC., OWNER
MINE RECLAMATION CORPORATION, OPERATOR
EAGLE MOUNTAIN RECLAMATION, INC., OPERATOR
EAGLE MOUNTAIN LANDFILL
Eagle Mountain – Riverside County

CONSISTS OF

PART I, PART II, AND PART III

(See Last Page for Summary)

PART I

A. General

Reporting responsibilities of waste discharges are specified in Section 13225(a), 13267(b), and 13387(b) of the California Water Code, and the State Water Resources Control Board's Resolution No. 93-062. This self-monitoring program is issued in accordance with Provision No. 32 of Regional Board Order No. 99-061. The principal purposes of a self-monitoring program by a waste discharger are:

1. To document compliance with waste discharge requirements and prohibitions established by the Regional Board,

2. To facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge,

3. To prepare water quality analyses;

4. To prepare vadoze zone (unsaturated zone) gas and liquid quality analyses.

B. Definition of Terms

1. The "Monitored Media" are those water- or gas-bearing media that are monitored pursuant to this Monitoring and Reporting Program. The Monitored Media include: (1) ground water in the uppermost aquifer, and in any other portion of the zone of saturation (Section 20164 of Title 27) in which it would be reasonable to anticipate that waste constituents migrating from the Unit could be detected, (2) any bodies of surface water that could be measurably affected by a release, and (3) soil-pore liquid and gases beneath and/or adjacent to the unit.

2. The "Constituents of Concern (COC)" are those constituents which are likely to be in the waste in the Unit or which are likely to be derived from waste constituents, in the event of a release. The constituents of Concern for this Unit for water are listed below:

   INORGANIC CONSTITUENTS

   Ammonia (As N)
   Bicarbonate (HCO_3)
   Carbonate (CO_3^{-2})
   Calcium
   Chloride
   Iron
   Magnesium
   Manganese (dissolved)
   Nitrate
   Potassium
   Sodium
   Sulfate
   Chemical Oxygen Demand
   Total Dissolved Solids (TDS)
   Total Organic Carbon
   pH (field)
   Alkalinity (as $CaCO_3$)
   Antimony
   Arsenic
   Barium

Beryllium
Cadmium
Chromium
Cobalt
Copper
Lead
Nickel
Selenium
Silver
Thallium
Vanadium
Zinc

ORGANIC CONSTITUENTS

Acetone
Acrylonitrile
Benzene
Bromochloromethane
Bromodichloromethane
Bromoform;tribromomethane
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane; Ethyl chloride
Chloroform; trichloromethane
Dibromochloromethane; Chlorodibromomethane
1,2-Dibromo-3-chloropropane, DBCP
1,2-Dibromoethane; Ethylene dibromide; EDB
o-Dichlorobenzene; 1,2-Dichlorobenzene
p-Dichlorobenzene; 1,4-Dichlorobenzene
trans-1,4-Dichloro-2-butene
1,1-Dichloroethane; Ethylidene chloride
1,2-Dichloroethane; Ethylene dichloride
1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride
cis-1,2-Dichloroethylene; trans-1,2-Dichloroethene
trans-1,2-Dichloroethylene; cis-1,2-Dichloroethene
1,2-Dichloropropane, Propylene dichloride
cis-13-Dichloropropene
trans-1,3-Dichloropropene
Ethylbenzene
2-Hexanone; Methyl butyl ketone
Methyl bromide; Bromomethane
Methyl chloride; Chloromethane
Methylene bromide; dibromomethane
Methylene chloride; dichloromethane
Methyl ethyl ketone; MEK; 2-Butanone
Methyl iodide; Iodomethane
4-Methyl-2-pentanone; Methyl isobutyl ketone
Styrene
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethylene; Tetrachloroethene; Perchloroethylene
Toluene
1,1,1-Trichloroethane; Methylchloroform
1,1,2-Trichloroethane

Trichloroethylene; Trichloroethane
Trichlorofluoromethane; CFC-11
1,2,3-Trichloropropane
Vinyl acetate
Vinyl chloride
Xylenes

3. The constituents of concern for soil-pore gas beneath and/or adjacent to the Unit are as follows:

   Acetone
   Benzene
   1,1-Dichlorotheane
   Ethylbenzene
   Methyl ethyl ketone
   Methylene chloride
   Tetrachloroethylene
   Toluene
   Trichloroethylene
   Vinyl chloride
   m-p-o Xylene
   o-m-p Xylene
   Methane

4. The "Monitoring Parameters" consist of a short list of constituents and parameters used for the majority of monitoring activity. At the Eagle Mountain Landfill, the list of the monitoring parameters for water is the same as the list of Constituents of Concern (COC) which are listed in Part I.B.2 (above) of this Monitoring and Reporting Program. The monitoring parameter for gas is methane. Monitoring for the short list of monitoring parameters constitutes "indirect monitoring", in that the results are used to indicate the success or failure of adequate containment for the longer list of Constituents of Concern.

5. "Standard observations" refers to:

   a. For Surface Receiving Waters:

      1. Floating and suspended materials of waste origin: presence or absence, source, and size of affected area;

      2. Discoloration and turbidity: description of color, source, and size of affected area:

      3. Evidence of odors: presence or absence, characterization, source, and distance of travel from source:

      4. Evidence of beneficial use: presence of water-associated wildlife;

      5. Flow Rate; and

      6. Weather conditions: wind direction and estimated velocity, total precipitation during the previous five days and on the day of observation.

   b. Along the perimeter of the Unit:

      1. Evidence of liquid leaving or entering the Unit, estimated size of affected area, and flow rate (show affected area on map);

2. Evidence of odors: presence or absence, characterization, source, and distance of travel from source; and

3. Evidence of erosion and/or of exposed refuse.

c. For the Unit:

1. Evidence of ponded water at any point on the waste management facility (show affected area on map);

2. Evidence of odors: presence or absence, characterization, source, and distance of travel from source;

3. Evidence of erosion and/or of daylighted refuse; and

4. "Standard Analyses and Measurements", which refers to:

a. Turbidity (only for water samples) in NTU;

b. Water elevation to the nearest $1/100^{th}$ foot above mean sea level (only for ground water monitoring); and

c. Sampling and statistical/non-statistical analyses of the Monitoring Parameters.

6. "Matrix effect refers to any increase in the Method Detection Limit or Practical Quantitation Limit for a given constituent as a result of the presence of other constituents, either of natural origin or introduced through a release, that are present in the sample of water or soil-pore gas being analyzed.

7. "Facility-Specific Method Detection Limits (MDL)" for a given analytical laboratory using a given analytical method to detect a given constituent (in spite of any Matrix Effect) means the lowest concentration at which the laboratory can regularly differentiate, with 99% reliability, between a sample which contains the constituent and one which does not.

8. Facility-Specific Practical Quantitation Limit)PQL)" for a given analytical laboratory using a given analytical method to determine the concentration of a given constituent (in spite of any Matrix Effect) means the lowest constituent concentration the laboratory can regularly quantify within specified limits of precision that are acceptable to the Regional Board's Executive Officer.

9. "Reporting Period" means the duration separating the submittal of a given type of monitoring report from the time the next iteration of that report is scheduled for submittal. Therefore, the reporting period for monitoring parameters is quarterly, and the reporting period for Constituents of Concern is every five years. The annual report, which is a summary of all the monitoring during the previous year, shall also be submitted to the Regional Board. The submittal dates for each reporting period shall be as follows:

a. Quarterly Monitoring Reports

1. First Quarter (January, February, and March) – report due by June 15

2. Second Quarter (April, May, and June) – report due by September 15

3. Third Quarter (July, sugust, and September) – report due by December 15

4. Fourth Quarter (October, November, and December) – report by March 15.

b. Annual Summary Report

January 1 through December 31 – Report due March 15

c. Five Year Report

January of the first year through December of the fourth year and every five years after that, as long as the Landfill is in operation – report due by March 15 of the sixth year.

C. SAMPLING AND ANALYTICAL METHODS

1. Sampling collection, storage, and analyses shall be performed according to the most recent version of Standard USEPA methods, and in accordance with an approved sampling and analyses plan. Water and waste analyses shall be performed by a laboratory approved for these analyses by the State of California. Specific methods of analyses must be identified. If methods other than USEPA-approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the Regional Board's Executive Officer prior to use. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Board. All motoring instruments and equipment shall be properly calibrated and maintained to ensure the accuracy of measurements. In addition, the discharger is responsible for seeing that the laboratory analyses of all samples from Monitoring Points and Background Monitoring Points meet the following restrictions:

   a. The methods and analyses and the detection limits used must be appropriate for the expected concentrations. For detection monitoring of any constituent or parameter that is found in concentrations which produce more than 90% non-numerical determinations (i.e., "trace" or "ND") in data from background Monitoring Points for that medium, the analytical methods having the lowest MDL, defined in Part I.B.8., shall be selected from among those methods which would provide valid results in light of any "Matrix Effects" (defined in Part I.B.7.) involved.

   b. "Trace" results, results falling between the MDL and the PQL, shall be reported as such, and shall be accompanied both by the estimated MDL and PQL values for that analytical run and by an estimate of the constituent concentration.

   c. MDLs and PQLs shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. These MDLs and PQLs shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the lab, rather than simply being quoted from USEPA analytical method manuals. If the lab suspects that, due to a change in matrix or other effects, the true detection limit or quantitation limit for a particular analytical run differs significantly from the laboratory derived MDL/PQL values, the results shall be flagged accordingly, along with an estimate of the detection limit and quantitation limit actually achieved.

   d. All Quality Assurance/Quality Control (QA/QC) data shall be reported, along with the sample results to which it applies, including the method, equipment, and analytical detection limits, the recovery rates, and explanation of any recovery rate that is less than 80%, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analyses, and the name and qualifications of the person(s) performing the analyses. Sample results shall be reported unadjusted for blank results or spike recovery.

   e. Upon receiving written approval from the Regional Board's Executive Officer, an alternative statistical or non-statistical procedure can be used for determining the significance of analytical results for a constituent that is a common laboratory contaminant (i.e., methylene chloride, acetone, diethylhexylphthalate, and di-n-octyl phthalate) during any given Reporting

Period in which QA/QC samples show evidence of laboratory contamination for that constituent. Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by the Regional Board staff.

f. Unknown chromatographic peaks shall be reported, along with an estimate of the concentration of the unknown analyte. When unknown peaks are encountered, second column or second method confirmation procedures shall be performed to attempt to identify and more accurately quantify the unknown analyte.

g. In cases where contaminants are detected in QA/QC samples (i.e., field, trip, or lab blanks), the accompanying sample results shall be appropriately flagged.

h. The MDL shall always be calculated such that it represents a concentration associated with a 99% reliability of a non-zero result.

D. RECORDS TO BE MAINTAINED

Written reports shall be maintained by the discharger or laboratory, and shall be retained for the life of the Landfill, including the post closure period. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board's Executive Officer. Such records shall show the following for each sample:

1. Identity of sample and of the Monitoring Point or Background Monitoring Point from which it was taken, along with the identify of the individual who obtained the sample;

2. Date and time of sampling;

3. Date and time that analyses were started and completed, and the name of the personnel performing each analyses;

4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used;

5. Calculations of results; and

6. Results of analyses, and the MDL and PQL for each analyses.

E. REPORTS TO BE FILED WITH THE BOARD

1. Written reports consisting of a) "Monitoring Parameter Report" as described in Part II.C.2.; b) "Annual Summary Report"; and c) "Five Year Report" as described in Part II.C.3. of this Monitoring and Reporting Program, shall be submitted no later than 75 days following the end of their respective reporting periods. These written reports shall be comprised of at least the following:

   a. Letter of Transmittal. A letter transmitting the essential points in each report shall accompany each report. This letter shall include a discussion of any requirement violations found since the last such report was submitted, and shall describe actions taken or planned for correcting those violations. If the discharger has previously submitted a detailed time schedule for correcting said requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred since the last submittal, this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer at the level of vice-president or above, or by his/her duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates. The

letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete and correct.

b. Each Monitoring Parameter Report and each COC Report shall include a compliance evaluation summary. The summary shall contain at least:

1. For each monitored ground water body, a description and graphical presentation of the velocity and direction of the ground water flow under/around the Unit, based upon water level elevations taken during the collection of the water quality data submitted in the report.

2. Pre-Sampling Purge for Samples Obtained From Wells. For each monitoring well addressed by the report, a description of the method and time of water level measurement, of the type of pump used for purging and the placement of the pump in the well, and of the method of purging (the pump rate, the equipment and methods used to monitor field pH, temperature, and conductivity during purging, the calibration of the field equipment, results of the pH, temperature, conductivity, and turbidity testing, the well recovery time, and the method of disposing of the purge water).

3. Sampling. For each Monitoring Point and Background Monitoring Point addressed by the report, a description of the type of pump, or other device, used and its placement for sampling, and a detailed description of the sampling procedure (number and description of the samples, field blanks, travel blanks, and duplicate samples taken, the type of containers and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples, and any other observations).

4. Post-Sampling Purge. For each monitoring well addressed by the report, a description of how the well was purged to remove all portions of the water that was in the well bore while the sample was being taken.

c. A map or aerial photograph showing the locations of observation stations, Monitoring Points, and Background Monitoring Points.

d. For each Monitoring Parameter Report and each COC Report, include laboratory statements of results of all analyses demonstrating compliance with Part I.C.

e. An evaluation of the effectiveness of the leachate monitoring and control facilities, and of the run-off/run-on control facilities.

f. A summary and certification of completion of all Standard Observations (Part I.B.5.) for the Unit, for the perimeter of the Unit, and for the Receiving Waters.

g. The quantity and types of wastes discharged and the locations in the Unit where waste has been placed since submittal of the last such report.

2. Contingency Reporting

a. The dischargers shall report to the Regional Board any release of contaminants by telephone from the disposal area immediately after it is discovered. A written report shall be filed with the Regional Board within seven days, containing at a minimum, the following information:

1. A map showing the location(s) of release.

2. An estimate of the flow rate.

3. A description of the nature of the discharge (e.g., all pertinent observations and analyses).

4. corrective measures underway or proposed.

b. Should the initial statistical comparison (Part III) or non-statistical comparison (Part III) indicate, for any Constituent of Concern or Monitoring Parameter, that a release is tentatively identified, the dischargers shall immediately notify the Regional Board verbally as to the Monitoring Point(s) and constituent(s) or parameter(s) involved, shall provide written notification by certified mail within seven days of such determination (Section 20420(j)(1) of Title 27) and shall carry out a discrete retest in accordance with Parts II.C.1., and III. If the retest confirms the existence of a release, the dischargers shall carry out the requirements of Part I.E.2.d. In any case, the dischargers shall inform the Regional Board of the outcome of the retest as soon as the results are available, following up with written results submitted by certified mail within seven days of completing the retest.

c. If either the dischargers or the Regional Board determines that there is significant physical evidence of a release (Section 20385(3) of Title 27), the dischargers shall immediately notify the Regional Board of this fact by certified mail (or acknowledge the Regional Board's determination) and shall carry out the requirements of Part I.E.2.d. for all potentially affected monitored media.

d. If the dischargers conclude that a release has been discovered:

1. If this conclusion is <u>not</u> based upon "direct monitoring" of the Constituents of Concern, pursuant to Part II.C.3., then the dischargers shall, within thirty days, sample for all Constituents of Concern at all Monitoring Points and submit them for laboratory analyses. Within seven days of receiving the laboratory analytical results, the dischargers shall notify the Regional Board, by certified mail, of the concentration of all Constituents of concern at each Monitoring point. Because this scan is not to be tested against background, only a single datum is required for each Constituent of Concern at east Monitoring Point (Section 20420(k)(1) of Title 27).

2. The dischargers shall, within 90 days of discovering the release, submit a Revised Report of Waste Discharge proposing an Evaluation Monitoring Program meeting the requirements of Section 20420 (k)(5) and Section 20425 of Title 27.

3. The dischargers shall, within 180 days of discovering the release, submit a preliminary engineering feasibility study meeting the requirements of Section 20420(k)(6) of Title 27.

e. Any time the dischargers conclude, or the Regional Board's Executive Officer directs the dischargers to conclude, that a liquid-or gaseous-phase release from the Unit has proceeded beyond the facility boundary, the dischargers shall so notify all persons who either own or reside upon the land that directly overlies any part of the plume (Affected Persons).

1. Initial notification to Affected Persons shall be accomplished within 14 days of making this conclusion and shall include a description of the dischargers' current knowledge of the nature and extent of the release.

2. Subsequent to initial notification, the dischargers shall provide updates to all Affected Persons, including any newly Affected Persons, within 14 days of concluding that there has been any material change in the nature or extent of the release.

3. ANNUAL SUMMARY REPORT

The dischargers shall submit an annual report to the Regional Board covering the previous monitoring year. The Reporting Period ends December 31. This report shall contain:

a. A Graphical Presentation of Analytical Data (Section 20415(e)(14) of Title 27). For each Monitoring Point and Background Monitoring point, submit in graphical format the laboratory analytical data for all samples taken within at least the previous five calendar years. Each Monitoring point and Background Monitoring Point, at a scale appropriate to show trends or variations in water quality. The graphs shall plot each datum rather than plotting mean value. For any given constituent or parameter, the scale for background plots shall be the same as that used to plot downgradient data. On the basis of any aberrations noted in the plotted data, the Regional Board's Executive Officer may direct the dischargers to carryout a preliminary investigation (Section 20080(d)(2)), the results of which will determine whether or not a release is indicated.

b. All monitoring analytical data obtained during the previous two six-month Reporting Periods, shall be presented in tabular form as well as on 3.5" diskettes, in a format acceptable to the Regional Board's Executive Officer. Data sets too large to fit on a single 360 K.B. diskette may be submitted on disk in a commonly available compressed format (e.g., PK-ZIP or NORTON BACKUP). The Regional Board regards the submittal of data in hard copy and on diskette as "…the form necessary for…" statistical analyses (Section 20420(h) of Title 27) in that this facilitates periodic review by the Regional Board's statistical consultant.

c. A comprehensive discussion of the compliance record, and the result of any corrective actions taken or planned which may be needed to bring the dischargers into full compliance with the waste discharge requirements.

d. A map showing the area, if any, in which filling has been completed during the previous calendar year.

e. A written summary of the ground water and soil-pore gas analyses, indicating any changes made since the previous annual report.

f. An evaluation of the effectiveness of the leachate monitoring/control facilities, pursuant to Section 20340 (b)(c) &(d) of Title 27.

PART II: MONITORING AND OBSERVATION SCHEDULE

A. WASTE MONITORING

1. Report quarterly, as part of the Monitoring Report (Part I.B.10.a.) (June 15, September 15, December 15, and March 15):

   a. The total volume and weight of refuse (in cubic yards and tons) disposed of at the site during each month, showing location and dimensions on a map.

   b. A description of the waste stream, including the percentage of the waste type (i.e., residential, commercial, industrial, or construction debris).

   c. The location and areal extent of disposal of each waste type.

   d. A photograph of the Landfill.

2. Report annually as part of the annual monitoring report (June 15):

   a. An areal map of the facility.

   b. Survey monuments.

B. ON-SITE OBSERVATIONS

The dischargers shall report the following on-site observations as part of the Monitoring and Reporting Program during the Reporting Period (Part I.B.10.a.):

STATION	DESCRIPTION	OBSERVATIONS	MONITORING FREQUENCY	REPORTING FREQUENCY
V-1 through V-'n'	Located on waste disposal area as delineated by a 500-foot grid network	Standard Observations for the Unit	Weekly	Quarterly
P-1 through P-'n'	Located at equidistant intervals not exceeding 1000 feet around the perimeter of the Unit	Standard Observations for the Perimeter	Weekly	Quarterly

C. WATER AND SOIL-PORE GAS SAMPLING/ANALYSES FOR DETECTION MONITORING

Monitoring parameter Report due quarterly, Constituent of Concern Reports due every five years (details below).

1. Thirty day Sample Procurement Limitation. For any given monitored medium, the samples taken from all Monitoring Points and Background Monitoring Points to satisfy the data analyses requirements for a given reporting period shall all be taken within a span not exceeding 30 days, and shall be taken in a manner that ensures sample independence to the greatest extent feasible

(Section 20415(e)(12)(B) of Title 27). Ground water sampling shall also include an accurate determination of the ground water surface elevation and field parameters (temperature, electrical conductivity, turbidity) for that Monitoring Point or Background Monitoring Point (Section 20415(e)(13) of Title 27); ground water elevations taken prior to purging the well and sampling for Monitoring Parameters shall be used to fulfill the quarterly ground water flow rate/direction analyses required under Part II.C.6. Statistical or non-statistical analyses shall be carried out as soon as the data is available, in accordance with Part III of this program.

2. "Indirect Monitoring" for Monitoring Parameters Done Quarterly. For each monitoring medium, all monitoring points assigned to detection monitoring and all background Monitoring Points (Part II.C.4.), shall be monitored once each quarter ((Part I.B.10.a.) for the monitoring parameters listed in Part I.B.2. of this Program. Monitoring for Monitoring Parameters shall be carried out in accordance with Parts II.C.1. and III of this Program.

3. "Direct Monitoring" of all Constituents of Concern Every Five Years. In the absence of a release being indicated (1) pursuant to Part II.C.2. for a Monitoring Parameter, (2) based upon physical evidence, pursuant to Part I.B.6., or (3) by a study required by the Regional Board's Executive Officer based upon anomalies noted during visual inspection of graphically depicted analytical data (Part I.E.3.a.), then the dischargers shall sample all Monitoring Points and Background Monitoring Points of water-bearing media, including soil-pore gas, for all Constituents of Concern every fifth year, beginning with the year of adoption of this Board Order, with successive direct monitoring efforts being carried out alternately in the spring of one year (Report Period ends December 31) and the Fall of the fifth year thereafter (Reporting Period ends September 30). Direct monitoring for Constituents of Concern shall be carried out in accordance with Parts II.C.3. and III of this program, and shall encompass only those Constituents of Concern that do not also serve as a Monitoring Parameter.

4. Monitoring Points and Background Monitoring Points for Each Monitored Medium. The dischargers shall sample the following Monitoring Points and Background Monitoring Points in accordance with the sampling schedules given under Parts II.C.2. and II. C. 3. (immediately foregoing), taking enough samples to qualify for the most appropriate test under Part III for:

   a. Surface Water

      1. For the surface water monitoring, the following locations and monitoring points shall be used (also shown on Attachment 25):

         Phase 1

Purpose	Background	Points of Compliance
Monitoring surface water drainage from west of the project boundary onto the west haul road	SW-1	
Monitoring surface water drainage from northwest of the project boundary onto the west haul road	SW-2	
Phase 2 and 3		
Monitoring Bald Eagle Creek	SW-3	
Monitoring Eagle Creek	SW-4	

Purpose	Background	Points of Compliance
Monitoring surface water drainage from the south haul road into the east pit		SW-5
Monitoring surface water in the east pit		SW-6
Phase 4		
Monitoring surface water drainage from the east haul road into the east pit		SW-7
Monitoring surface water drainage from north of the project boundary onto the north maintenance road	SW-8	
Monitoring surface water discharge from Detention Basin No. 3		SW-9

2. Each significant storm event up to four a year shall be sampled for at least one year before waste is placed in the applicable phase of the Landfill. Background water quality samples shall be analyzed for all constituents in Part 1.B.2. of this Monitoring and Reporting Program.

3. Each surface water monitoring point in Part II.C.4.a.1. shall be sampled during, or immediately after, each storm event that produces enough flow to be sampled, or a maximum of four times a year, for all the monitoring parameters given in Part I.B.2. of this Monitoring and Reporting Program.

b. Unsaturated Zone Liquid (UZL)

1. For UZL monitoring, the following stations and areas shall be used for each operational and post closure period of each phase of the Landfill (also shown on Attachment 25).

Phases	Proposed Monitoring Points	Area Monitored (acres)
1	UZ-1	24
	UZ-2	37
2	UZ-3	30
	UZ-4	55
3	UZ-5	34
	UZ-6	43
	UZ-7	111
4	UZ-8	59
	UZ-9	105
	UZ-10	92
Total		590

2. For establishing background values, testing shall be performed at the frequency needed for statistical analyses of variance for the following:

   a. Obtain samples of the materials used (such as soil liner materials and unsaturated zone liquid monitoring layer material) and water to be used in the construction process.

   b. Perform leaching tests of the construction water through the construction materials.

   c. Perform analytical tests on samples of water that has been leached through the construction materials.

   d. Sample and analyze construction water that accumulates in the unsaturated zone liquid monitoring stations (UZLMS) prior to waste disposal.

3. Monitoring and sampling of UZLMS shall be done quarterly for the monitoring parameters established in Part I.B.2. of this Program.

c. Ground Water

1. For ground water in the uppermost aquifer, the monitoring points shall be the following wells (also shown on Attachment 25):

	Background Monitoring Wells		Point of Compliance Wells	
Phase	Existing	Proposed to be installed	Existing	Proposed to be installed
1	MW-10	MW-14 and MW-15	MW-16 through MW-20 MW-21 MW-47	
2		MW-23		MW-24 through MW-26
3		MW-27 and MW-28		MW-29 through MW-35
4	MW-12	MW-36 and MW-37		MW-38 through MW-46

2. All monitoring wells shall be sampled quarterly for at least one year before waste is discharged to the Landfill for establishing background values for all the parameters given in Part I.B.2. of this Monitoring and Reporting Program.

3. Immediately after the operation starts for each phase, each background and point of compliance monitoring well that is pertinent to that phase, as is indicated in c.1. of this section, shall be sampled quarterly for all the monitoring parameters given in Part I.B.2. of this Monitoring and Reporting Program.

d. Vertical Gas Extraction Monitoring System

1. Vertical gas monitoring probes (shown on Attachment 29) shall be sampled quarterly.

2. Monitoring results shall be reported to the Regional Board quarterly.

e. Perimeter Gas Monitoring System

1. Perimeter gas monitoring probes, shown on Attachment 6-31, shall be sampled quarterly using a portable combustible-gas meter to check for the presence of methane gas while the Landfill is operating.

2. Monitoring results shall be reported to the Regional Board quarterly.

3. During the post closure maintenance period, monitoring shall be done on a quarterly basis.

4. A corrective action plan shall be implemented in the event that a gas is detected in quantities greater than the maximum allowable level in §17783 of Title 14, or 40 CFR §258.23.

f. Unsaturated Zone Gas Monitoring System (UZGMS)

1. The unsaturated zone gas monitoring probes, shown on Attachment 32, shall be sampled from sampling ports at the Landfill perimeter for methane gas on a quarterly basis for each unsaturated zone gas probe.

2. Monitoring results shall be submitted to the Regional Board quarterly.

5. Initial Background Determination. For the purpose of establishing an initial pool of background data for each Constituent of Concern at each Background Monitoring Point in each monitored medium (Section 25415(e)(6) of Title 27):

a. Whenever a new Constituent of Concern is added to the Water Quality Protection Standard, including any added by the adoption of this Board Order, the dischargers shall collect at least one sample quarterly for at least one year from each Background Monitoring Point in each monitored medium and analyze for the newly-added constituent(s).

b. Whenever a new Background Monitoring Point is added, including any added by this Board Order, the dischargers shall sample it at least quarterly for at least one year, analyzing for all Constituents of Concern and Monitoring Parameters.

6. Quarterly Determination of Ground Water Flow Rate/Direction (Section 25415(e)(15) of Title 27). The dischargers shall measure the water level in each well and determine ground water flow rate and direction in each ground water body described in Part II.C.4. at least quarterly, including the times of expected highest and lowest elevations of the water level for the respective ground water body. This information shall be included in the quarterly monitoring reports required under Part II.C.2.

PART III: STATISTICAL AND NON-STATISTICAL ANALYSES OF SAMPLE DATA DURING A DETECTION MONITORING PROGRAM

1. The selection of a statistical method is predicated on the physical ability to obtain samples, including multiple samples during a given sampling interval, and on the nature and distribution of the data collected. At least 90 days prior to the initiation of waste disposal at the Landfill, the dischargers shall submit to the Regional Board, acceptable to the Regional Board's Executive Officer, a supplement to the ROWD that provides a detailed plan for sampling and analyses of water-bearing monitored media, including detailed procedures for statistical or non-statistical analyses of data. At a minimum, the plan shall include:

    a. For each Constituent of Concern and Monitoring Parameter, results of background monitoring, including all data obtained during quarterly monitoring of all background monitoring points for a period of at least one year (Section 20415(e)(6) of Title 27). It is the responsibility of the dischargers to collect additional background samples if necessary to validate any proposed statistical or non-statistical data analyses method in Item 2, below.

    b. For each Constituent of Concern and Monitoring Parameter, proposed statistical or non-statistical data analyses methods (Section 20415(e)(7) of Title 27). The methods shall be selected from the approved methods specified in Section 20415(e) of Title 27). The methods shall also satisfy the performance standards of Section 20415(e)(9) of Title 27).

    c. For each Constituent of Concern and Monitoring Parameter, proposed procedures for determining background values. Justification must be provided for the proposed procedures (Section 20415(e)(10 of Title 27).

    d. For each Constituent of Concern and Monitoring Parameter, sampling methods to be used to establish background values and sampling methods to be used for monitoring pursuant to these waste discharge requirements (Section 20415(e)(12) of Title 27). The plan shall include:

        1. The number and types of samples collected. The number and types of samples shall be appropriate for the form of statistical test employed when interpreted using generally accepted statistical principles (Section 20415(e)(12)(A) of Title 27).

        2. The sampling method, including the sampling frequency and the interval of time between successive samples, the sampling method shall be appropriate for the medium from which the samples are taken (Section 20415(e)(12)(B)of Title 27). The sampling method selected shall include not less than one sample collected quarterly from each Monitoring Point and Background Monitoring Point and statistical analyses performed at least quarterly.

    e. Procedures for statistical retests in accordance with Section 22415(e)(8) of Title 27), including a demonstration that the proposed retest method satisfies the performance standards of 220415(e)(8)(E)1-7 as well as (e)(9) of Title 27.

    f. All other applicable requirements of Section 20415(e) of Title 27.

2. Upon review and approval of the ROWD supplement described in III.A., above, the Regional Board shall amend these waste discharge requirements to specify one of the following for each constituent of concern and for each monitoring parameter (Section 220415(e)(11) of Title 27).

a. A background value established by the dischargers using the procedures proposed pursuant to Section 20415(e)(10)(A) of Title 27, or

b. A detailed description of the procedure to be used by the dischargers for establishing and updating background value as proposed pursuant to Section 20415(e)(10)(B).

MONITORING SUMMARY

1. The dischargers shall arrange the data in tabular form so that the specified information is readily discernible. The data shall be summarized in such a manner as to clearly illustrate whether the facility is operating in compliance with waste discharge requirements.

2. Records of monitoring information shall include:

   a. The date, exact place, and time of sampling or measurement(s)
   b. The individual(s) who performed the sampling or measurement(s)
   c. The date(s) analyses were performed
   d. The individual(s) who performed the analyses
   e. The analytical techniques or method used
   f. The results of such analyses.

3. Each report shall contain the following statement:

   "I declare under the penalty of law that I have personally examined and am familiar with the information submitted in this document, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

4. A duly authorized representative of the dischargers may sign the documents if:

   a. The authorization is made in writing by the person described above.

   b. The authorization specified an individual or person having responsibility for the overall operation of the regulated disposal system.

   c. The written authorization is submitted to the Regional Board's Executive Officer.

5. Report immediately any failure in the waste disposal system by telephone with follow-up by letter.

6. Monitoring reports shall be certified under penalty of perjury to be true and correct, and shall contain the required information at the frequency designated in this monitoring report.

7. Quarterly monitoring reports shall be submitted to the Regional Board by January 15, April 15, July 15 and October 15 of each year. Annual monitoring reports shall be submitted to the Regional Bard by January 15 of each year.

SUMMARY OF DATA COLLECTION/REPORTING ACTIVITIES[1]

COMPONENT	MEDIA	ANALYSES PARAMETERS[2]	MONTIORING FREQUENCY[3]	REPORTING FREQUENCY
Perimeter Gas Probes	Unsaturated Zone Gas	Methane	Monthly	Quarterly
Vertical Gas Extraction System	Landfill Gas	Methane	Periodic	Quarterly
Vertical Gas Extraction System	Landfill Gas Condensate	Selected Parameters	Periodic	Quarterly
Unsaturated Zone Gas Monitoring Layer	Unsaturated Zone Gas	Methane	Quarterly	Quarterly
Leachate Collection System	Leachate	Constituents Listed in Part I.B.2	Quarterly	Quarterly
Unsaturated Zone Liquid Monitoring System	Unsaturated Zone Liquid	Constituents Listed in Part I.B.2	Quarterly	Quarterly
Ground Water Monitoring Wells	Ground Water	Constituents Listed in Part I.B.2	Quarterly	Quarterly
Surface Water Monitoring Stations	Surface Water	Constituents Listed in Part I.B.2	Quarterly	Quarterly

[1] All data shall be provided to the Regional Water Quality Control Board
[2] Inorganic and organic constituents listed in Part IB.2
[3] Frequencies correspond to Landfill active life

Submit monitoring reports to:

California Regional Water Quality Control Board
Colorado River Basin Region
73-720 Fred Waring, Suite 100
Palm Desert, CA 92260

Ordered by:_____**DRAFT**_____
Executive Officer

_____
Date